

PATENT COOPERATION TREATY

PCT



INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference PCT-E5259	FOR FURTHER ACTION		See Form PCT/IPEA/416
International application No. PCT/KR2005/004454	International filing date(<i>day/month/year</i>) 22 DECEMBER 2005 (22.12.2005)	Priority date (<i>day/month/year</i>) 22 DECEMBER 2004 (22.12.2004)	
International Patent Classification (IPC) or national classification and IPC H01M 10/02(2006.01)i			
Applicant SK CORPORATION et al			

<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>4</u> sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input type="checkbox"/> (sent to the applicant and to the International Bureau) a total of _____ sheets, as follows:</p> <p style="margin-left: 40px;"><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p style="margin-left: 40px;"><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (<i>sent to the International Bureau only</i>) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the report</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>

Date of submission of the demand 17 MAY 2006 (17.05.2006)	Date of completion of this report 05 APRIL 2007 (05.04.2007)
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International application No.

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Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language _____ which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
- ☐ publication of the international application (under Rule 12.4)
- ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:
- ☒ the international application as originally filed/furnished
- ☐ the description:
- pages _____ as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☐ the claims:
- pages _____ as originally filed/furnished
- pages* _____ as amended (together with any statement) under Article 19
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☐ the drawings:
- pages _____ as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☐ the sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

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Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-13	YES
	Claims	None	NO
Inventive step (IS)	Claims	1-13	YES
	Claims	None	NO
Industrial applicability (IA)	Claims	1-13	YES
	Claims	None	NO

2. Citations and explanations (Rule 70.7)

1. Reference is made to the following documents:

D1) KR2002-0012397 A

D2) KR2002-0093781 A

D3) KR2001-0008762 A

2. Novelty and Inventive Step

The subject matter of claims 1-13 of the present invention relates to a high power lithium unit cell and a high power lithium battery pack, comprising: a rectangular anode collector; a rectangular cathode collector; a separator film; an anode terminal connected to an anode plate connecting part which protrudes from either of two long sides of four sides of the rectangular anode plate; an cathode terminal connected to an cathode plate connecting part which protrudes from either of two long sides of four sides of the rectangular anode plate.

Document D1 relates to the lithium secondary battery of the plate shape including the electrode assembly which freely can diversify the location of the cathode terminal and anode terminal.

Document D2 relates to the lithium secondary battery including the electrode structure in which the anode plate and negative plate take turns, and in which the tap of the anode plate is overlapped with the anode plate, and which the tap of the negative plate is overlapped with the negative plate.

Document D3 relates to a Li polymer secondary cell which is provided in order to enhance the reliability in production and manipulation by improving the arrangement structure of anode and cathode terminals electrically connected to an external circuit. The anode is arranged at different side from the cathode tap. The taps are welded to an anode terminal and a cathode terminal to be connected with an external circuit.

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Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of:

None of the documents D1-D3 disclose a high power lithium unit cell and a high power lithium battery pack, comprising: an anode terminal connected to an anode plate connecting part which protrudes from either of two long sides of four sides of the rectangular anode plate; an cathode terminal connected to an cathode plate connecting part which protrudes from either of two long sides of four sides of the rectangular anode plate.

Therefore, the subject matter of claims 1-13 is considered to be novel and to involve an inventive step under PCT Article 33(2)-33(3).

3. Industrial Application

The subject matter of claims 1-13 is considered to be industrially applicable under PCT Article 33(4).